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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/677,436

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EXAMINER

MAIER, LEIGH C

ART UNIT

PAPER NUMBER

1623

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/677,436	Applicant(s) ZHANG, LIFENG	
	Examiner Leigh C. Maier	Art Unit 1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-10,12,13 and 16-24 is/are pending in the application.
4a) Of the above claim(s) 4 and 6-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,12,13,18-21 and 23 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 16, 17, 22 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of the Claims

Claims 1, 2, 10, 12, 13, 16, 17, 23 and 24 have been amended. Claims 3, 5, 11, 14, 15 and 25-28 have been canceled. Claims 1, 2, 4, 6-10, 12, 13 and 16-24 are pending. Claims 4 and 6-9 are withdrawn as being drawn to a non-elected invention. Any objection or rejection not expressly repeated has been withdrawn. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that Applicant, at the time the application was filed, had possession of the claimed invention.

This claim recites the limitation wherein the solids content is 17 wt%. The examiner does not find support for this limitation. Applicant is directed to point out the support for this limitation in the specification as originally filed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as

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the invention. This claim depends from claim 11, which has been canceled, rendering it vague and indefinite.

Claim Rejections - 35 USC § 103

Claims 1, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eisenhart et al (US 5,137,571) in view of Emmons et al (US 4,079,028).

Eisenhart teaches as set forth above. The reference teaches the use of cyclodextrins in combination with hydrophobically modified polyethoxylated urethane thickeners, generally, and further discloses that these thickeners are known and disclosed by Emmons. See col 1, 59-62. The reference does not exemplify all the thickeners based on the full range of diisocyanates recited.

Emmons teaches the preparation of hydrophobically modified polyethoxylated urethane thickeners using a variety of diisocyanates. See paragraph bridging col 8-9.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select any of the hydrophobically modified polyethoxylated urethane thickeners taught by Emmons with a reasonable expectation of success because Eisenhart suggests their use.

Applicant's arguments filed August 18, 2008 have been fully considered but they are not persuasive.

Applicant argues that Eisenhart merely mentions Emmons in the description of the prior art as one that discloses polyurethane thickeners formulated with organic solvents. Applicant alleges that this reference teaches away from using such organic solvents with thickeners. The

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examiner agrees that the reference teaches away from using organic solvents, but not from using the urethane thickeners, per se. The object of Eisenhart is the preparation of an associative thickener with the appropriate viscosity in aqueous solution, eliminating the need for organic solvents. The examiner maintains that it would be obvious to one of ordinary skill to modify the method of Eisenhart by the use of any of the associative thickeners disclosed in Emmons with a reasonable expectation of success.

Applicant further argues that claim 1 specifically address which hydrophobically modified polyethoxylated urethane thickener should be complexed with which cyclodextrin-containing compound by indicating that the thickener comprises at least one terminal phobe of a size capable of complexing with the cyclodextrin cavity. However, the reference explicitly teaches that the method of viscosity modification involves the complexation of the cyclodextrin with the hydrophobic moieties of the thickener. See abstract. With only three sizes of cyclodextrin cavity—alpha, beta and gamma—one of ordinary skill would determine the optimum cyclodextrin for the particular thickener through routine experimentation, thereby arriving at the instant composition. The finding of variable results, based on the use of different sizes of cyclodextrin, is not considered unexpected results.

Claims 1, 2, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eisenhart et al (US 5,137,571) in view of Emmons et al (US 4,079,028) and further in view of Lau et al (US 5,376,709) and Lau et al (US 5,521,266).

Eisenhart and Emmons teach as set forth above.

Eisenhart teaches the general concept of using a variety of cyclodextrins—alpha, beta and gamma, unmodified and modified—in combination with hydrophobically modified associative thickeners to eliminate the use of organic cosolvents and surfactants necessary to prepare aqueous compositions. See col 1, lines 18-51.

Eisenhart does not teach the use of methyl α -cyclodextrin.

Lau '709 teaches the use of methyl β -cyclodextrin as a viscosity modifier in combination with hydrophobically modified urethane thickeners. See abstract and Example 1. The teaching is limited to β -cyclodextrin, but this appears to be based on the availability of particular modified cyclodextrins at the time of the Lau '709 disclosure. See paragraph bridging col 1-2.

Lau '266 discloses the use of variously modified cyclodextrins, including methylated α -cyclodextrin. See col 3, lines 51-67.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to select any of the hydrophobically modified polyethoxylated urethane thickeners taught by Emmons with a reasonable expectation of success as discussed above. Furthermore, Eisenhart teaches the use of unmodified α -, β - and γ -cyclodextrins, as well as generically modified α -, β - and γ -cyclodextrins. Therefore, in view of the teaching of Lau '709 regarding the utility of methyl β -cyclodextrin, it would be further obvious to modify the combination of Eisenhart and Emmons by the use of any available modified cyclodextrin, such as methyl α -cyclodextrin, disclosed by Lau '266, with a reasonable expectation of success.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claims because the examined application claim is either anticipated by, or would have been obvious over, the reference claim. See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 1, 2, 16 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. 7,125,919 in view of Emmons et al (US 4,079,028). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims of '919 are drawn to a tinting composition comprising a generic hydrophobically modified ethylene oxide urethane block copolymer and a generic macromolecular organic compound having a hydrophobic cavity. The written description of the latter component comprises various cyclodextrins. See col 6, lines 4-20. The claims do not recite particular hydrophobically modified ethylene oxide urethane block copolymers.

Emmons teaches as set forth above. The disclosed hydrophobically modified ethylene oxide urethane block copolymers have utility for preparing paint, a tinting composition comprising a colorant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to prepare the recited composition with cyclodextrins because they are disclosed in the written description of "macromolecular organic compound having a hydrophobic cavity." It would be further obvious to select any hydrophobically modified ethylene oxide urethane block copolymer known to have utility for the preparation of tinting compositions, such as paint. In doing so, one of ordinary skill would arrive at the instant invention with a reasonable expectation of success.

Claims 1, 2, 16 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. 6,887,928 in view of

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Emmons et al (US 4,079,028). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims of '928 are drawn to a method of improving the viscosity stability of a coating composition comprising a generic hydrophobically modified ethylene oxide urethane block copolymer and an associative thickener, such as a generic macromolecular organic compound having a hydrophobic cavity. The written description of the latter component comprises various cyclodextrins. See col 4, lines 33-58. The claims do not recite particular hydrophobically modified ethylene oxide urethane block copolymers.

Emmons teaches as set forth above. The disclosed hydrophobically modified ethylene oxide urethane block copolymers have utility for preparing paint, a coating composition comprising a colorant.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to carry out the reference method with a cyclodextrin because they are disclosed in the written description of "macromolecular organic compound having a hydrophobic cavity." It would be further obvious to select any hydrophobically modified ethylene oxide urethane block copolymer known to have utility for the preparation of a coating composition, such as paint. In doing so, one of ordinary skill would arrive at the instant invention with a reasonable expectation of success.

Claims 1, 16 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,376,709 in view of Emmons et

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al (US 4,079,028). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims of '709 are drawn to a method for eliminating the need for organic solvents in a composition comprising a hydrophobic thickener, such as generic hydrophobically modified polyethoxylated urethane by the addition of methyl β -cyclodextrin. The claims do not recite particular hydrophobically modified ethylene oxide urethane block copolymers.

Emmons teaches as set forth above.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to carry out the reference method for the elimination of organic solvent using a thickener known to require the addition of an organic solvent as a viscosity modifier with a reasonable expectation of success. In doing so, the artisan would arrive at the instant composition.

Claims 1, 2, 16 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 5,137,571 in view of Emmons et al (US 4,079,028). Claim 2 is rejected further in view of Lau et al (US 5,376,709) and Lau et al (US 5,521,266). Although the conflicting claims are not identical, they are not patentably distinct from each other.

The claims of '928 are drawn to a method for eliminating the need for organic solvents in a composition comprising a hydrophobic thickener, such as generic hydrophobically modified polyethoxylated urethane by the addition of a cyclodextrin. The claims do not recite particular hydrophobically modified ethylene oxide urethane block copolymers.

Emmons teaches as set forth above.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to carry out the reference method for the elimination of organic solvent using a thickener known to require the addition of an organic solvent as a viscosity modifier with a reasonable expectation of success. In doing so, the artisan would arrive at the instant composition.

With respect to claim 2, Lau '709 and Lau '266 teach as set forth above. The claims recite the use of unmodified α -, β - and γ -cyclodextrins, as well as modified α -, β - and γ -cyclodextrins. Therefore, in view of the teaching of Lau '709 regarding the utility of methyl β -cyclodextrin, it would be further obvious to modify the combination of Eisenhart and Emmons by the use of any available modified cyclodextrin, such as methyl α -cyclodextrin, disclosed by Lau '266, with a reasonable expectation of success.

Allowable Subject Matter

Claims 10, 12, 13, 18-21 and 23 are allowed. Claims 22 and 24 are subject to rejection under 35 USC 112, as set forth above, but are found free of the art. Applicant argues cogently that Eisenhart teaches away from the use of unmodified cyclodextrins with high solids content.

It is noted that in remarks submitted May 31, 2006, Applicant has suggested interference with US 6,900,255. Applicant is reminded that the contents of the suggestion must comply with 37 CFR 41.202. See MPEP 2304.02 [R-4].

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Examiner's hours, phone & fax numbers

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh Maier whose telephone number is (571) 272-0656. The examiner can normally be reached on Tuesday, Thursday, and Friday 7:00 to 3:30 (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Anna Jiang (571) 272-0627, may be contacted. The fax number for Group 1600, Art Unit 1623 is (571) 273-8300.

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/Leigh C. Maier/

Primary Examiner, Art Unit 1623

December 23, 2008